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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,456	09/02/2004	Pierre Matz	258194US0PCT	1788
22850	7590	09/04/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER AFTERGUT, JEFF H	
			ART UNIT 1733	PAPER NUMBER
			NOTIFICATION DATE 09/04/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/505,456	<b>Applicant(s)</b> MATZ ET AL.	
	<b>Examiner</b> Jeff H. Aftergut	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4,5 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,5 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4-4-07</u> | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT WO 02/088589 in view of UK 2,276,584.

PCT '589 taught a process for reinforcing a plastic pipe which included the steps of providing a tubular support of unoriented plastic (note that the background describes the difficulties associated with orienting a plastic material and provision of the same in the form of a pipe and that the object of the invention was to reinforce a plastic tubular object with oriented strips wound thereon and thus it is asserted that one reading the reference as a whole would have understood that the tubular support onto which the oriented strips were wound was one which was unoriented, see page 1, lines 20-page2, line 2, for a discussion of the difficulties associated with formation of an oriented pipe material). The reference taught that the strips employed in the operation were oriented strips of plastic material, see page 7, line 28-page 8, line 24. The oriented bands of plastic material are bonded to the support or the subjacent tape layer with an adhesive, see page 8, lines 25-27. The reference additionally suggested that the use the adhesive as a layer which was precoated upon the oriented tapes, see page 8, lines 28-30. The reference additionally suggested that utilizing precoated heat activatable adhesive was advantageous as it allowed one to select an adhesive which would not alter the properties of the oriented layers of tape wound upon the pipe as the heat required to activate the layers was less than that which would have degraded the orientation in the

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plastic layers, see page 8, line 31-page 9, line 2. The reference taught that the tape comprised at least one plastic layer of oriented plastic and at least one precoated layer of heat activatable adhesive thereon. The reference taught that at least two of these oriented tapes were wound about an unoriented core and joined together (where the interior tape was adhesively bonded to the core and the exterior tape layer was adhesively joined to the subjacent tape layer with adhesive. The reference failed to teach that the heat activatable layer was one which absorbs energy via electromagnetic radiation. It should be noted that the reference did suggest that those skilled in the art would have known to apply heat via infrared radiation to activate the adhesive, see page 9, lines 13-18.

However, in the art of reinforcing a plastic pipe, it was known at the time the invention was made to apply tapes of plastic material upon the core of plastic material and to join the layers together with the application of heat thereto with radio frequency as suggested by UK '584. More specifically, applicant is referred to page 11, lines 6-13 of the reference. The reference made it clear that those skilled in the art applying a plastic tape via a winding operation upon a pipe would have recognized that a suitable manner for application of heat to weld the plastic to the pipe would have included the incorporation of an infrared absorber or pigment within the plastic tape in order to generate heat at the surface of the tape and facilitate the welding of the tape to the other layers of the assembly. As the reference to PCT '589 suggested that those skilled in the art would have incorporated a layer in the tape which was capable of absorbing infrared radiation in order to heat a heat activatable adhesive material in the layer to join

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the layers together as suggested by UK '584 in the process of reinforcing a pipe by winding oriented tape thereon as taught by PCT '589. Note that UK '584 suggested that the other portion of the tape would have been transparent to infrared radiation.

With respect to claim 4, note that UK '584 suggested that the wavelength of the radiation was less than 2.5 micrometers (less than 2500 nm) clearly inclusive of the wavelength specified by applicant.

3. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK 2,276,584 in view of Kile.

UK '584 suggested that it was known at the time the invention was made to wind a tape about a core of plastic material wherein the plastic tape included a layer of material therein which was transparent to infrared radiation and a layer therein which included an infrared absorber or pigment therein in order to heat up to facilitate bonding of the wound layers together as well as to the tubular core. The applicant is referred more specifically to page 11, lines 6-13 of the document for the use of a multilayer plastic tape for the wound assembly. The artisan would have determined the appropriate amount of pigment or absorber in order to adequately heat the assembly. The reference failed to teach that the transparent layer was one which included plastic which was oriented (note that the layer is plastic but the reference is silent as to whether it is oriented plastic or not).

Kile taught that it was known at the time the invention was made to reinforce a tubular core by application of oriented plastic tapes where the oriented plastic tapes were wound upon the core and bonded thereto with an adhesive, see column 2, lines 7-

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13. The use of the oriented plastic allowed to the formation of a pipe or conduit with greater strength in the finished assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize oriented plies of plastic in the operation of UK 2,276,584 as such would have resulted in a finished assembly which had greater strength as suggested by the wound assembly of Kile who employed oriented plastic strips and wound the same about a plastic core.

With respect to claim 4, note that UK '584 suggested that the wavelength of the radiation was less than 2.5 micrometers (less than 2500 nm) clearly inclusive of the wavelength specified by applicant.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in either one of paragraphs 2 or 3 further taken with Foglia.

The references as set forth above suggested that the wavelength of light used was less than 2500 nm as discussed above with reference to UK '584 with a preference to 1200 nm (see page 8, lines 1-4), however the references never expressly stated that the wavelength of the radiation employed was between 700-1200 nm. However, the use of a wavelength of between 700-1200 nm was known in the art as a useful wavelength for treating the plastic to join the same as taught by Foglia who suggested a wavelength between 200 and 40000 nm as useful with a preference for a wavelength between 400-800 nm, see column 4, lines 47-51. The reference to Foglia additionally suggested that those skilled in the art would have applied the radiation via a laser. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the

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radiation via a laser which could more directly focus the desired wavelength of radiation to the plastic plies being joined at the interface between the plastic pieces as suggested by Foglia in the operation of joining plastic together to reinforce a plastic tubular article as set forth above in either one of paragraphs 2 or 3.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 4, 5, and 12 have been considered but are moot in view of the new ground(s) of rejection.

The 112, first paragraph rejection has been overcome by the response, however the prior art rejection has surfaced as a result of the newly presented independent claim.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

JHA  
August 27, 2007